

ASTRO 10 — Elementary Astronomy

Spring 2004, Section 1

Instructor: Dr. Christopher Palma	Time: MW 3:35 – 4:25
Office: 403 Davey Lab	Location: 121 Sparks
Phone: 863-0733	Office Hours: T 3–5/R 2–3 or by appointment
Email: cpalma@astro.psu.edu	Text: Astronomy: A Beginner's Guide to the Universe – Chaisson & McMillan

Course website: <http://www.astro.psu.edu/users/cpalma/astro10/>

Course description: _____

The goals for this course are to: (1) help you understand the nature of science using astronomy as an example; (2) understand some of the big ideas in astronomy; and (3) develop a lifelong interest in astronomy and current events surrounding astronomy. To meet these three goals, you need to:

*Complete the reading assignments **before class**.* The course mini-lectures are designed to focus on the really difficult aspects of astronomy or to provide structure for your out-of-class study. You are accountable for all material, concepts, and interrelationships presented in the mini-lectures, demonstrations, and, most importantly, the text. Therefore, it is imperative to your success in this course that you complete the assigned readings prior to coming to class. Otherwise, the mini-lectures or demos will not make much sense. You may want to bring your text to class each day so that you may make notes in the margins and highlight the relevant passages. It is important to remember that the exams will cover material from the text that might or might not be discussed in class.

Determination of Grade: _____

Your grade for this course will be determined entirely by your performance on the three in-class quizzes and the final exam. The dates for the in-class quizzes are listed on the class calendar on the course website. Each quiz will cover only the material since the previous quiz.

No makeup quizzes are allowed. Instead, your lowest quiz grade will be dropped, so one quiz can be missed without an excuse. The only exception to this rule will be for a serious medical or family emergency or for official university business. All requests for a makeup quiz for one of these reasons must be made on or before the day of the quiz. The content, style, and format of the makeup quiz will be different than the normal quizzes and will include mostly short answer questions. No makeups will be scheduled *before* the quiz date. Missing two or more quizzes without an excuse will result in an automatic failure for the course.

The final exam date, time, and location will be announced at a later date. No makeup exam will be offered for the final exam and it cannot be dropped, so *do not miss the final exam!* There will be no opportunities to take the final exam at a different time. The final exam will be comprehensive, but it will focus on material from the classes after quiz 3.

Each quiz and the final will count 100 points each. Since the lowest quiz grade gets dropped, your final grade breakdown is as follows:

Best two quiz grades	200 pts.	67%
Final exam	100 pts.	33%

If you suspect that there is an error in the grading of your quiz or final exam, you must notify me directly within *two weeks* of the quiz. No grade changes on the quizzes will be considered during finals week.

Academic Integrity: _____

All Penn State University, Eberly College of Science, and Department of Astronomy & Astrophysics policies regarding academic integrity and ethical behavior will be strictly enforced during this course. During closed-book, closed-note exams, you must bring a photo ID, you are not allowed to wear headphones, to wear a hat, or allowed to communicate with anyone in the classroom except for the course instructors and exam proctors. If you have been certified as needing to take an exam under special circumstances, please see me privately.

Course Conduct: _____

Please turn off cell phones before you enter the classroom. Also, please arrive on time and do not leave class early unless you have talked to the instructor first.

Course Outline: _____

The list of topics that we will cover and the order is listed below. The list is tentative and is likely to change over the course of the semester. We may not cover them all, but we are going to try!

- | | |
|---|----------------------------------|
| Course Introduction | Galaxies |
| Scientific Method / Scientific notation | Dark Matter |
| The night sky and constellations | Galaxy Environments |
| Seasons and the phases of the Moon | Active Galaxies & Quasars |
| Gravity / orbits / Kepler's and Newton's laws | Cosmology |
| Electromagnetic radiation and detectors | Search for Extraterrestrial Life |
| Blackbody radiation / spectroscopy | QUIZ 3 |
| QUIZ 1 | Earth Moon system and tides |
| Star properties and measurement | Terrestrial planets |
| Types of stars and structure of stars | Outer planets |
| Evolution of stars | Asteroids / meteors / comets |
| Stellar remnants | Sun/Earth environment |
| Star formation | FINAL EXAM |
| Binary stars | |
| Star clusters | |
| The Milky Way Galaxy | |
| QUIZ 2 | |